

**REMARKS**

Applicants request reconsideration and allowance of the present application in view of the foregoing amendments and the following remarks.

Claims 1-16 are pending in the present application. Claims 1, 8, 12, and 13 are the independent claims.

Initially, Applicants acknowledge with appreciation the indication that claims 4, 7, 11, 15, and 16 recite patentable subject matter and would be allowable if rewritten in independent form to include all of the features of their respective base claims and any intervening claims. By the present Amendment, Applicants have respectfully maintained claims 4, 7, 11, 15, and 16 in dependent form because it is believed, for at least the reasons set forth below, that the independent claims patentably define over the citations of record.

The Office Action objected to the drawings. Specifically, the Office Action contends that FIGS. 1-3 are admitted prior art and should be so labeled. (Office Action, page 2). Applicants respectfully disagree and direct attention to the "Description of the Related Art" section of the Specification, where FIGS. 1-3 are described as illustrating the "conventional art." Thus, Applicants have added the legend "CONVENTIONAL ART" to FIGS. 1-3.

Accordingly, favorable consideration is respectfully requested.

Claims 1-3, 5, 6, 8-10, and 12-14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the conventional three-dimensional de-interlacing method illustrated by FIGS. 1-3 of Applicants' disclosure (the conventional de-interlacing method) in view of U.S. Patent No. 6,459,455 (Jiang et al.). All rejections are respectfully traversed.

Independent claim 1 recites, inter alia, determining motion index values of the respective pixels in the current and previous frames based upon ... comparing a threshold value to a difference value between respective filtered pixels in a current field to be subjected to de-interlacing in one of the current and previous frames and corresponding respective filtered pixels in preceding and succeeding fields to the current field and in the current and previous frames.

Independent claim 8 recites, inter alia, a motion index value determination unit which performs two-dimensional low pass filtering on respective predetermined pixels of a current frame and a previous frame, obtains a difference value between the respective filtered pixels in a current field subject to de-interlacing in one of the current and previous frames and corresponding respective filtered pixels in preceding and succeeding fields to the current field and in the current and previous frames, and compares the difference value with a threshold

value to determine motion index values of the respective pixels in the current and previous frames.

Independent claim 12 recites, inter alia, determining a motion mode of a pixel in a current field of the current frame based upon motion index values of pixels of the current field and adjacent peripheral pixels to the pixel, in the current and previous fields to the current field and in the current and previous frames.

Independent claim 13 recites, inter alia, a programmed computer processor determining a motion mode of a pixel in a current interlaced image frame field by performing Interlaced-to-Progressive Conversion using motion index values determined from two-dimensional low pass filtered pixel values of a previous interlaced image frame and the current interlaced image frame.

By the aforementioned features, a motion index value can be determined based on both spatially and temporally adjacent pixels.

However, Applicants respectfully submit that neither the conventional de-interlacing method nor Jiang et al. disclose at least the aforementioned features of independent claims 1, 8, 12, and 13. Thus, without conceding the propriety of the asserted combination, the asserted combination is likewise deficient, even in view of the knowledge of one of ordinary skill in the art.

The conventional de-interlacing method determines a motion mode based on a motion index value based on three pixels; a current pixel and two adjoining pixels. However, all three of these pixels are of the current frame. (Specification, paragraphs [0007] and [0009]). Thus, the motion index value is determined based only on pixels of a current frame. Stated another way, the motion index value is determined based on only spatially adjacent pixels. Absent from the conventional de-interlacing method is any disclosure of determining a motion index value based on information of other frames (i.e., temporally adjacent pixels).

The secondary citation to Jiang et al. relates to motion adaptive interlacing and is cited for its alleged disclosure of low pass filtering. (Office Action, page 3). Applicants respectfully submit that Jiang et al. adds nothing that would remedy the aforementioned deficiency in the conventional de-interlacing methods.

Thus, even in combination and in view of the knowledge of one of ordinary skill in the art, the conventional de-interlacing method and Jiang do not disclose at least the aforementioned features of independent claims 1, 8, 12, and 13.

Accordingly, favorable reconsideration and withdrawal of the rejection of independent claims 1, 8, 12, and 13 are respectfully requested.

In view of the foregoing, Applicants respectfully submit that the independent claims patentably define the present invention over the citations of record. Further, the dependent claims should also be allowable for the same reasons as their respective base claims and further due to the additional features that they recite. Separate and individual consideration of the dependent claims is respectfully requested.

Applicants believe that the present Amendment is responsive to each of the points raised by the Examiner in the Official Action. However, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to such matters.


There being no further outstanding objections or rejections, it is submitted that the present application is in condition for allowance. An early action to that effect is courteously solicited.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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**AMENDMENTS TO THE DRAWINGS**

The attached sheets of drawings include changes to FIGS. 1-3. These sheets, which include amended FIGS. 1-3, replace the original sheets including FIGS. 1-3. In FIGS. 1-3, the Legend --CONVENTIONAL ART--has been added. These drawing changes are being made in response to an objection to the same in the Office Action. Also, block 126 of FIG. 1 has been amended to better conform to the corresponding written description of this figure. The drawing changes do not introduce new matter.